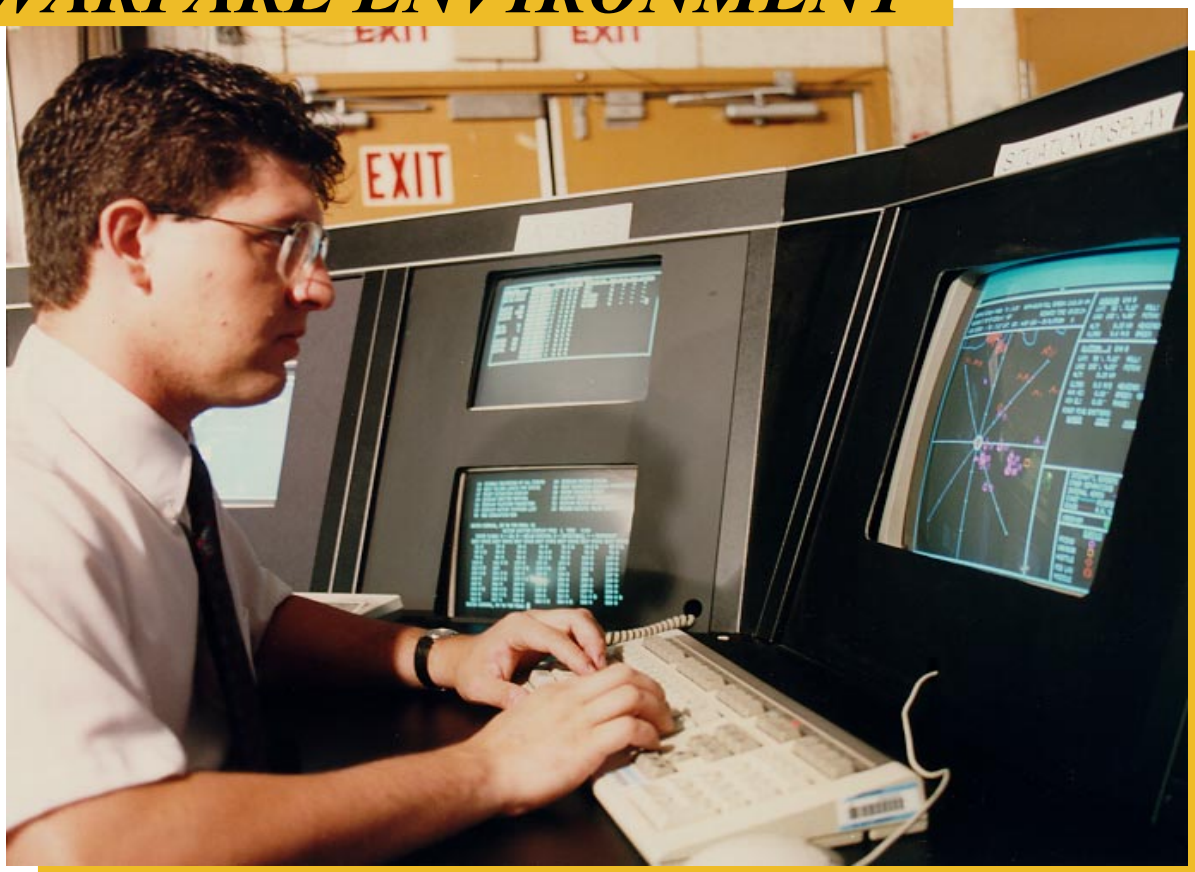
EWISTL SIMULATES WARFARE ENVIRONMENT



The Naval Aviation Systems Team Electronic Warfare Integrated Systems Test Laboratory (EWISTL) determines how well aircraft systems respond to various radio frequency (RF) and electro-optical (EO) stimuli responses to either individual or simultaneous stimulations can be measured. Test results determine if the systems under test (SUT) perform according to design specifications. The analysis is based on whether the system properly identifies and processes the radar stimulation it receives and initiates the appropriate response. The SUT must be able to process signals according to specific design criteria such as sensitivity level, parameter measurement, and pulse density.

EWISTL PROVIDES T&E OF INSTALLED SYSTEMS

EWISTL provides multispectral open loop stimulation to electronic warfare (EW) and EO sensor systems. These systems can include radar warning receivers, jamming systems, electronic support measures, laser warning, and passive missile approach warning. RF stimulation of bench and installed SUTs can be provided through direct injection, closed hats, or free space. This laboratory has five systems that can simulate the transmitted RF characteristics of friendly and hostile radars both individually and one system that can generate ECM techniques. These systems are the Advanced Tactical Electronic Warfare Environment Simulator (ATEWES), the Enhanced Tactical Electronic Warfare Environment Simulator (ETEWES), the Micro Tactical Electronic Warfare Environment Simulator (µTEWES), the Multiple Electronic Warfare Emitter Simulator (MEWES), the Frequency Agile Simulator System (FASS), the Versatile Electronic Countermeasures Test Optimization Rack (VECTOR), and the Remote Antenna Positioner System (RAPS).

Both ATEWES and ETEWES can use scripted scenarios to simulate aircraft flight profiles and emitter line of site. MEWES and µTEWES are portable stimulators that can be used on a flight line or carried to a vendor's facility for pre-delivery acceptance testing.

The FASS can replicate very complex RF waveforms using a built-in waveform generation language. VECTOR is a computer controlled ECM threat generator capable of simulating denial and deception ECM techniques.

The RAPS provides a means of testing using signals emanating from a moving source. RAPS can vary the position of two RF antennas relative to the SUT at speeds up to 50 inches per second.

Additionally, EWISTL has an stimulation capability for EO passive missile warning systems and laser warning systems.

The laboratory when interfaced with the OCC can monitor internal data buses (MIL-STD 1553) or discrete lines. The instrumentation is used to measure system performance.

For more information about EWISTL, contact the Electronic Combat Simulation Branch at Patuxent River, MD, at 301-342-3933.